US-PAT-NO: 6256771

DOCUMENT-IDENTIFIER: US 6256771 B1

TITLE: Method and apparatus for providing a dynamic service composition software architecture

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Application Filing Date - AD (1):
19971016

Brief Summary Text - BSTX (6):
There are several problems, however, with using static service composition to create a software based service. Because the selected applications 20 and interactions 30 are fixed at the time the service 10 is designed, they cannot be changed dynamically when the service 10 is executed. As used herein, the words "dynamic" and "dynamically" refer to events occurring at the general time a software service is executed or run, as opposed to a "static" composition which is fixed at the time a software service is created. The resulting software based service is typically built as a monolithic application that is difficult to enhance or modify. This makes changing the functionality of a software based service a very time consuming and expensive task. If a user wanted the stock quote service to send a message to a **pager,** instead of sending an E-**mail** message, the major parts of the service would have to be recomposed, retested and reinstalled. With complicated software based services, this process can take well over a year to complete and requires the efforts of specially trained software designers and programers.

Detailed Description Text - DETX (12):
A variety of user access devices and **transport options** can be supported by using agent adaptors 132, 136, 139. A user could enter a request through a phone 131 and have a phone agent adaptor 132 translate the request for the agent netlet 140. The user could also enter a request on a Personal Digital Assistant (PDA) 133, such as a Palm Pilot available from Palm Computing, Inc., a subsidiary of 3Com Corporation. The PDA could send the request via E-mail through daemons 134 and a mailbox 135 to a PDA agent adaptor 136, allowing for the "disconnected" request and delivery of a software based service. An Internet browser 137 could also send a request through a Hypertext Transfer Protocol (HTTP) server to an Internet browser adaptor 139. HTTP is a set of rules for exchanging text, graphic images, sound, video, and other multimedia files on the World Wide Web.

Detailed Description Text - DETX (13):
FIG. 7 is a block diagram of a dynamically composed stock quote notifying service executing on a netlet host 200 according to an embodiment of the present invention. A user can request, for example, that the agent netlet 240

dynamically create a service that informs the user when a particular stock reaches a certain price. The agent netlet 240 will select a service netlet 250 appropriate for that task. The service netlet 250 will then select and configure component netlets 271 through 276. The stock quote data feed netlet 271 can receive raw stock information over the Internet and send stock related information to the quote filter netlet 272. The quote filter netlet 272 can tell the user notifier netlet 273 if the stock has reached that price. The user notifier netlet 273 will then send an event to the E-mail netlet 274, the fax netlet 375 or the pager netlet 276 as appropriate. The user notifier netlet 273 can, of course, decide to notify the user by several of these methods.

Detailed Description Text - DETX (14):

FIG. 8 is a dynamically composed multicast session recording and playback service executing on a host 300 according to an embodiment of the present invention. Multicast is an Internet Protocol (IP) based transport that broadcasts information, such as a video, to a set of receivers. The user can request that the agent netlet 340 create a software based service that pages the user if the Federal Reserve makes a multicast announcement. The user can also specify that the service automatically start multicast player tools on a personal computer to immediately play a Federal Reserve announcement, or to record the announcement and notify the user by E-mail. The agent netlet 340 will select a service netlet 350 appropriate for that task and the service netlet 350 will then select and configure component netlets 371 through 377. The session directory feed netlet 371 and the session filter netlet 372 can monitor announcements from the Federal Reserve. The user notifier netlet 373 can send one or more events to the session recorder netlet 374, the session player netlet 375, the E-mail netlet 376 and the pager netlet 377 as required. Note that the user notifier netlet 373, E-mail netlet 376 and pager netlet 377 can be the same netlets used in the stock quote notifying service shown in FIG. 7.

Detailed Description Text - DETX (15):

FIG. 9 is a dynamically composed run time call handling service executing on a netlet host 400 according to an embodiment of the present invention. A first user 430 can request that a first agent netlet 440 contact a second user 432. The first agent netlet 440 selects a service netlet 450 to create a call handling service from the pager netlet 471, the E-mail netlet 472 and the video message netlet 473. An agent netlet 442 associated with the second user 432 will also select a service netlet 452 to create a service that contacts the second user 432.

US-PAT-NO: 6185603

DOCUMENT-IDENTIFIER: US 6185603 B1

TITLE: Method and system for delivery of e-mail and alerting messages

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Abstract Text - ABTX (1):

A messaging system uses the standard email subject line to control where a message gets delivered, when a message gets delivered and the appearance of a message when it gets delivered. This enables a company to use its standard intranet email system as a pseudo real-time messaging **transport** with a range of delivery **options**. Several codes control the features of the alerting message, and a predefined escape sequence for use by the sender is recognizable by a dedicated server. This escape sequence enables these codes. By placing the escape sequence in a predetermined location in each message, the sender indicates to the system that codes for controlling the features of the alerting message follow the escape sequence. Using these codes, the user can then specify when, how often and in what manner the alert message is displayed to the recipient in a window on the recipient's workstation. In addition, the sender can certain aspects of message routing and delivery using these codes. In addition, routing of the message within the network can be controlled by the sender in the same manner by specifying a particular routing within the subject line of the message following the escape sequence. This includes routing the message to a facsimile, a **pager** or a telephone, or voice **mail** system. This is in addition to the normal email address used in the message.

Application Filing Date - AD (1):

19970313

Brief Summary Text - BSTX (14):

According to yet another advantageous feature of the present invention, routing of the message within the network can be controlled by the sender in the same manner by specifying a particular routing within the subject line of the message following the escape sequence. This includes routing the message to a facsimile, a **pager** or a telephone, or voice **mail** system. This is in addition to the normal email address used in the message.

Brief Summary Text - BSTX (16):

One advantageous embodiment of the apparatus of the present invention includes a **pager** server, a facsimile server and or a voice **mail** server, which are coupled to the message server. This permits the sender to route the message to either a **pager,** a facsimile or a voice **mail** system by specifying the routing within the subject line following the escape sequence, in addition to

the normal recipient.

Detailed Description Text - DETX (4):
According to the present invention, the Display Application 16 can display graphical and pure text messages. In one embodiment of the present invention, email is used as a source of messages to be displayed by the Display Application 16. Moreover, facsimile, voice **mail, pager,** telephone, etc. can also be used as a source of messages for display on the Display Application 16. Accordingly, the present invention extends the usefulness of the standard email infrastructure, and thus giving rise to new messaging and alerting opportunities.

Detailed Description Text - DETX (20):
The message server 3 also includes an interface to facsimile, **pager** and voice **mail** systems, which interface is via the IMPSS 11. This interface is a known telephony modem interface, hence no further description is necessary.